

2016/2017 Summer Studentship Project Application Form

Send to: Research Office, University of Otago Christchurch, PO Box 4345, Christchurch, by 5pm on **4 July 2016**

Supervisor Information (First named supervisor will be the contact):

First Supervisor's Name and Title: A/Prof Matt Doogue

Department - UOC &/or CDHB (if applicable): UOC, Department of Medicine, Clinical Pharmacology

First Supervisors Phone: 03 364 1055 or 022 406 3735

First Supervisors Email: matt.doogue@otago.ac.nz

First Supervisors Mailing Address: Department of Medicine, UOC, PO Box 4145, Christchurch 8140

Co-Supervisors Name and Title(s): Dr Paul Chin, Dr Matthew Strother

Research Category (Choose one category only – to be used for judging the students' presentations):

Clinical

Project Title (20 words MAXIMUM):

Evidenced Based Clinical Decision Support for e-Prescribing and Administration to Reduce Alert Fatigue

Project Description:

Introduction: Clinical decision support (CDS) is regarded as a major advantage of electronic health systems. However, the purported benefits of CDS are not realized in practice, largely because of alert fatigue. Alert fatigue occurs when a user receives multiple alerts not relevant to their task. The consequence of alert fatigue is users ignoring alerts and making errors.

CDS in healthcare traditionally aims for sensitivity, i.e. to provide all potentially relevant information to the user. This leads to alert fatigue. Despite recognition of alert fatigue, medico-legal concerns lead to health IT vendors persisting with high sensitivity, low specificity systems.

MedChart® is the electronic prescribing and administration system used in New Zealand public hospitals. MedChart is supplied with a vendor set CDS alerts. Instead of using these, MedChart CDS alerts have been locally configured at Canterbury District Health Board (CDHB) to minimise alert fatigue with the goal of maximising patient benefit. Further, CDHB has set up systems to extract data from MedChart® for measurement and evaluation.

The selected student will be involved in data analysis, interpretation and presentation of results. The student will have close supervision by clinical academic staff. The student will be encouraged to present their project at a scientific meeting - although this is not required and would be outside the 10-week project.

The student is expected to have basic knowledge of medicines and computer skills including spreadsheet use. More advanced skills in data analysis would be an advantage but are not essential.

Aim: To evaluate the CDS alerts in CDHB MedChart® and their impact on prescribing.

Possible impact (in lay terms): This project will quantify and describe the effects of prescription guidance alerts on prescribers. The results will be used to modify the

prescription guidance alert system at CDHB and will inform such alert systems at other hospitals in Australasia. Improved prescription guidance alert systems are expected to lead to safer prescribing and better patient outcomes.

Method: CDS alert data for all patients treated in CDHB hospitals during the study period will be extracted from MedChart® for analysis. Rates of alerts and clinician responses to alerts will be analysed (per 1,000 admissions and per 100,000 prescriptions) using Microsoft Excel and GraphPad Prism. More complex statistical analyses may be undertaken but are not necessary for the primary data analysis.